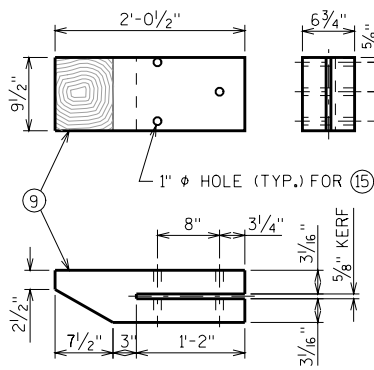
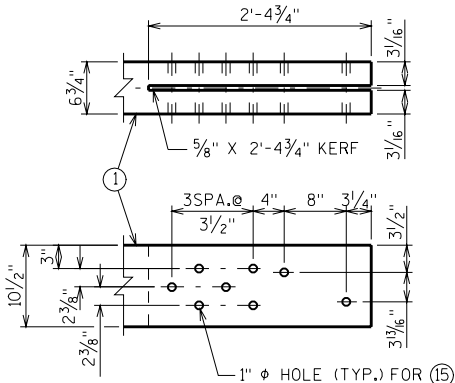


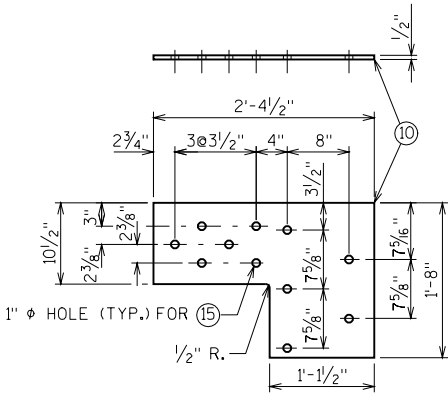
CURB TRANSITION



TRANSITION BLOCK



TRANSITION GLULAM RAIL BORING DETAIL



STEEL TRANSITION PLATE

NOTES

- BID ITEM SHALL BE "TREATED LUMBER AND TIMBER" WHICH INCLUDES ALL ITEMS SHOWN EXCEPT ITEMS NO 6, 7 AND THRIE BEAM TERMINAL CONNECTOR..
- DIMENSIONS GIVEN FOR GLUED-LAMINATED (GLULAM) TIMBER RAILS ARE ACTUAL DIMENSIONS.
- DIMENSIONS FOR WOOD POSTS, CURBS AND SCUPPERS ARE GIVEN AS NOMINAL DIMENSIONS. ACTUAL DIMENSIONS MAY BE A MAXIMUM OF 1/2 INCH LESS THAN THE STATED NOMINAL DIMENSIONS. DIMENSION FOR SPACER BLOCK DEPTH ARE ACTUAL DIMENSIONS.
- CURB AND RAIL SPLICES SHALL BE LOCATED SO THAT CURB AND RAIL MEMBERS ARE CONTINUOUS OVER NOT LESS THAN TWO POSTS. CURB SPLICES SHALL BE LOCATED A MINIMUM OF 1.5 POST SPACINGS AWAY FROM RAIL SPLICES. IT IS RECOMMENDED THAT GLULAM RAILS BE CONTINUOUS OVER THE LENGTH OF THE BRIDGE.
- SAWN LUMBER AND GLULAM SHALL COMPLY WITH THE REQUIREMENTS OF AASHTO M168 AND SHALL BE PRESSURE TREATED WITH WOOD PRESERVATIVES IN ACCORDANCE WITH AASHTO M133 AND STANDARD SPECIFICATIONS.
- BRIDGE RAIL SHALL BE HORIZONTALLY LAMINATED GLULAM, VISUALLY GRADED WESTERN SPECIES COMBINATION NO. 2, OR VISUALLY GRADED SOUTHERN PINE COMBINATION NO. 48. OTHER SPECIES AND GRADES OF GLULAM MAY BE USED, PROVIDED THE MINIMUM TABULATED VALUES ARE NOT LESS THAN THE FOLLOWING:

F<sub>by</sub> = 1,800 LB/IN<sup>2</sup>    E = 1,800,000 LB/IN<sup>2</sup>

- POSTS, CURBS, SCUPPERS, TRANSITION BLOCKS AND SPACER BLOCKS MAY BE SAWN LUMBER OR GLULAM. WHEN SAWN LUMBER IS USED, MATERIAL SHALL BE VISUALLY GRADED NO. 1 SOUTHERN PINE OR VISUALLY GRADED NO 1 DOUGLAS FIR-LARCH. GLULAM AND OTHER SPECIES AND GRADES OF SAWN LUMBER MAY BE USED, PROVIDED THE MINIMUM TABULATED VALUES ARE NO LESS THAN THE FOLLOWING:

F<sub>b</sub> = 1,350 LB/IN<sup>2</sup>    E = 1,500,000 LB/IN<sup>2</sup>

- ALL STEEL COMPONENTS AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111 OR M232.
- TO THE EXTENT POSSIBLE, ALL WOOD SHALL BE CUT, DRILLED, AND COMPLETELY FABRICATED PRIOR TO PRESSURE TREATMENT WITH PRESERVATIVES. WHEN FIELD FABRICATION OF WOOD IS REQUIRED OR IF WOOD IS DAMAGED, ALL CUTS, BORE HOLES, AND DAMAGE SHALL BE IMMEDIATELY TREATED WITH WOOD PRESERVATIVE IN ACCORDANCE WITH AASHTO M133 AND STANDARD SPECIFICATIONS.
- UNLESS NOTED, MALLEABLE IRON WASHERS SHALL BE PROVIDED UNDER BOLT HEADS AND UNDER NUTS THAT ARE IN CONTACT WITH WOOD. WHEN THE SIZE AND STRENGTH OF THE HEAD ARE SUFFICIENT TO DEVELOP CONNECTION STRENGTH WITHOUT WOOD CRUSHING, WASHERS MAY BE OMITTED UNDER HEADS OF DOME-HEAD TIMBER BOLTS.
- TOPS OF RAIL POSTS AND TOP OF THE RAIL SPlice PLATE KERF SHALL BE SEALED WITH ROOFING CEMENT OR OTHERWISE PROTECTED FROM DIRECT EXPOSURE TO WEATHER.
- DESTROY THREADS ON ALL BOLTS WITH A CENTER PUNCH AFTER TIGHTENING NUT. EXPOSED BOLT PROJECTION OVER 1" SHALL BE CUT OFF. REPAIR END OF BOLT BY PAINTING WITH ZINC RICH PRIMER.

BILL OF TREATED LUMBER

| ITEM              | NO. REQ'D. | SIZE             | LENGTH  | MBM |
|-------------------|------------|------------------|---------|-----|
| GLULAM RAIL       |            | 6 3/4" X 10 1/2" |         |     |
| RAIL SPACER BLOCK |            | 8" X 4 3/4"      | 10 1/2" |     |
| SCUPPER BLOCK     |            | 6" X 12"         | 3'-0"   |     |
| RAIL POST         |            | 8" X 8"          |         |     |
| CURB              |            | 6" X 12"         |         |     |
| CURB TRANSITION   |            |                  |         |     |
| TRANSITION BLOCK  |            |                  |         |     |
| TOTAL MBM         |            |                  |         |     |

LEGEND

- GLULAM RAIL 6 3/4" X 10 1/2"
- RAIL SPACER BLOCK 8" X 4 3/4" X 10 1/2"
- SCUPPER BLOCK 6" X 12" X 3'-0"
- RAIL POST @ STRUCTURE 8" X 8" X 3'-8"
- CURB 6" X 12"
- RAIL POST @ BEAM GUARD 8" X 8"
- RAIL SPACER BLOCK @ BEAM GUARD 8" X 11 1/2" X 1'-10 1/2"
- CURB TRANSITION @ BEAM GUARD
- TRANSITION BLOCK @ BEAM GUARD
- STEEL TRANSITION PLATE, ASTM A36.
- STEEL SPLICE PLATE, ASTM A36.
- 3/4" φ X 1'-10" LONG ASTM A307, GRADE 2, DOME-HEAD BOLT W/ 1-PLATE WASHER PER BOLT. (2 REQ'D. @ EACH RAIL TO POST CONNECTION, 4 REQ'D. @ EACH RAIL SPLICE).
- 1/4" φ X 1'-10" LONG ASTM A325, DOME-HEAD BOLT W/ 2 - 5/2" X 5/2" X 1/4" PLATE WASHERS, W/ 1 3/8" φ HOLE. (1 REQ'D. @ EACH CURB TO POST CONNECTION.)
- 3/4" φ X 1'-11" LONG ASTM A325 BOLT, 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT CURB TO SLAB CONNECTION. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT POST TO SLAB CONNECTION.
- 7/8" φ X 9" LONG ASTM A307, GRADE 2, DOME HEAD BOLT AT RAIL SPLICE DETAIL AND AT BEAM GUARD ATTACHMENT.
- 3/4" φ X 8" LONG ASTM A307, GRADE 2, DOME-HEAD BOLT (4 REQ'D. @ EACH CURB SPLICE DETAIL.)
- 4" φ SHEAR PLATE (8 REQ'D. @ EACH CURB TO SCUPPER CONNECTION, 4 REQ'D. @ EACH SCUPPER TO SLAB CONNECTION AND 1 REQ'D. @ EACH POST TO SLAB CONNECTION). MALLEABLE IRON MEETING REQUIREMENTS OF ASTM A47, GRADE 32510.
- 2" X 2'-6" X 5/16" ANCHOR PLATE WITH 4 - 1 3/16" φ HOLES FOR ANCHOR BOLTS NO. 14 (CURB TO SLAB CONNECTION).
- 5/8" φ ASTM A325 DOME-HEAD BOLT W/ 1-PLATE WASHER PER BOLT. (1 REQ'D. @ EACH THRIE BEAM POST TO CURB TRANSITION CONNECTION.)

|   |      |          |             |
|---|------|----------|-------------|
|   |      |          |             |
| NO.   | DATE | REVISION | BY          |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |          |             |
| STRUCTURE   |      |          |             |
|   |      | DRAWN BY | PLANS CK'D. |
| TIMBER RAILING<br>ATTACHED TO<br>CONC. SLAB DETAILS                             |      | SHEET    |             |